

NASA DEVELOP – 2021 Spring Potential Project List (updated 10/2/2020)

NOTE: These project ideas are **tentative** and **subject to change**. The number of projects listed does not necessarily reflect the number of projects conducted at a given node. Expect that each node will conduct 1-2 projects for the 2021 spring term. This list may be updated throughout the application period.

ARC: California – Ames (Moffett Field, CA)

- ▶ Northern Great Plains Disasters: Using Earth Observations to Enhance Flood Monitoring on Tribal Lands in the Northern Great Plains
- ▶ California Food Security & Agriculture: Developing an Algorithm to Identify and Age Orchards to Quantify Agricultural Carbon Pools

AZ: Arizona – Tempe (Tempe, AZ)

- ▶ Austin Health & Air Quality: Assessing the Health Risk of Urban Heat Using NASA Earth Observations and Socioeconomic Data
- ▶ Texas Coast Disasters: Mapping Geospatial Risk of Potential Hurricane Impacts

CO: Colorado – Fort Collins (Fort Collins, CO)

- ▶ Colorado River Basin Water Resources: Pairing Phenology Citizen Science Data with NASA Earth Observations to Monitor Riparian Vegetation
- ▶ Southern Rocky Mountain Disasters: Multi-scale Burn Severity Mapping of Prescribed Burns

GA: Georgia – Athens (Athens, GA)

- ▶ Africa Food Security & Agriculture II: Predicting the Likelihood of Human-Elephant Conflict and Assessing Habitat Conditions During Extreme Drought and Crop Deficit in Kavango-Zambezi Transfrontier Conservation Area
- ▶ Iowa Food Security & Agriculture: Using NASA Earth Observations to Map Crop Diversity to Predict Pest Risk

GSFC: Maryland – Goddard (Greenbelt, MD)

- ▶ Louisiana Urban Development: Flood Mapping using Synthetic Aperture Radar to Inform Placement of Stormwater Retention Bonds in New Orleans, Louisiana
- ▶ San Joaquin Valley Ecological Forecasting: Modeling Habitat Suitability of the San Joaquin Kit Fox to Inform Land Management Decisions for Solar Development
- ▶ Iowa Ecological Forecasting: Modeling Habitat Suitability to Aid in the Detection and Removal of Chinese Bush Clover by Working Dogs for Conservation

ID: Idaho – Pocatello (Pocatello, ID)

- ▶ Idaho Health & Air Quality II: Monitoring Fire Smoke Production and Spreading by Monitoring Atmospheric Mixing Heights Post-wildfire Through the Use of NASA Earth Observations

JPL: California – JPL (Pasadena, CA)

- ▶ Coastal California Ecological Forecasting: Characterizing and Assessing Estuarine Ecosystems in Coastal California for Better Wetland Monitoring and Management
- ▶ Alaska Transportation & Infrastructure II: Identifying Permafrost Subsidence Using Synthetic Aperture Radar and LiDAR to Pinpoint Road & Infrastructure Vulnerability in Alaska

LaRC: Virginia – Langley (Hampton, VA)

- ▶ Fairfax Water Resources: Quantifying Impervious Surfaces and Urban Tree Canopy to Estimate Urban Flood Susceptibility and Aid in Flood Mitigation Planning

MA: Massachusetts – Boston (Boston, MA)

- ▶ Laos Water Resources: Using NASA Earth Observations to Understand the Environmental Impacts of Hydroelectric Dams and Improve Water Management Decision Making in Laos

NASA DEVELOP – 2021 Spring Potential Project List *(updated 10/2/2020)*

NOTE: These project ideas are **tentative** and **subject to change**. The number of projects listed does not necessarily reflect the number of projects conducted at a given node. Expect that each node will conduct 1-2 projects for the 2021 spring term. This list may be updated throughout the application period.

MSFC: Alabama – Marshall (Huntsville, AL)

- ▶ Huntsville Urban Development II: Using NASA Earth Observations to Analyze Flood Risk and Stormwater Runoff
- ▶ Alabama Energy: Using Earth Observations to Identify Solar Potential in Northern Alabama

NC: North Carolina – NCEI (Asheville, NC)

- ▶ Illinois Food Security & Agriculture: Standardizing Soil Moisture Anomalies for Agricultural Drought Monitoring in Illinois Using NASA Earth Observations
- ▶ Eastern Cherokee Health & Air Quality: Monitoring Air Quality Impacts from Forest Fires using NASA Earth Observations for the Eastern Band of Cherokee Indians

Bhutan Special Project

- ▶ Bhutan Water Resources: Comparing Precipitation, Temperature, and Phenology Data Trends in Bhutan to Assist the Himalayan Environmental Rhythm Observation and Evaluation System (HEROES) Project
- ▶ Southern Bhutan Ecological Forecasting II: Modeling Asian Elephant (*Elephas maximus*) Habitat Suitability along the Southern Bhutan Border with NASA Earth Observations

Langley & UVA Special Project

- ▶ Tonlé Sap Food Security & Agriculture: Evaluating the Effects of Increased Dry Season Agriculture and Water Quantity Pumped from the Tonlé Sap and Surrounding River in the Lower Mekong River Basin